



**GE Betz**

GE Betz, Inc.  
4636 Somerton Road  
Trevose, PA 19053  
Business telephone: (215) 355-3300

Material Safety Data Sheet

Issue Date: 01-JUL-2002

**EMERGENCY TELEPHONE (Health/Accident): (800) 877-1940**

---

## **1 PRODUCT IDENTIFICATION**

PRODUCT NAME:

**BETZDEARBORN IEC5**

PRODUCT APPLICATION AREA:

**WATER-BASED DEPOSIT CONTROL AGENT.**

## **2 COMPOSITION / INFORMATION ON INGREDIENTS**

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

**HAZARDOUS INGREDIENTS:**

CAS#	CHEMICAL NAME
9016-45-9	NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL Irritant (eyes and skin)

No component is considered to be a carcinogen by the National Toxicology Program, the International Agency for Research on Cancer, or the Occupational Safety and Health Administration at OSHA thresholds for carcinogens.

### 3 HAZARDS IDENTIFICATION

\*\*\*\*\*

#### EMERGENCY OVERVIEW

##### CAUTION

May cause slight irritation to the skin. May cause moderate irritation to the eyes. Mists/aerosols may cause irritation to upper respiratory tract.

DOT hazard is not applicable  
Emergency Response Guide is not applicable  
Odor: Slight; Appearance: Colorless, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical/CO2/foam or water--slippery condition; use sand/grit.

\*\*\*\*\*

#### POTENTIAL HEALTH EFFECTS

##### ACUTE SKIN EFFECTS:

Primary route of exposure; May cause slight irritation to the skin.

##### ACUTE EYE EFFECTS:

May cause moderate irritation to the eyes.

##### ACUTE RESPIRATORY EFFECTS:

Mists/aerosols may cause irritation to upper respiratory tract.

##### INGESTION EFFECTS:

May cause slight gastrointestinal irritation.

##### TARGET ORGANS:

No evidence of potential chronic effects.

##### MEDICAL CONDITIONS AGGRAVATED:

Not known.

**SYMPTOMS OF EXPOSURE:**

May cause redness or itching of skin.

**4 FIRST AID MEASURES**

**SKIN CONTACT:**

Wash thoroughly with soap and water. Remove contaminated clothing.

Get medical attention if irritation develops or persists.

**EYE CONTACT:**

Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low-pressure water for at least 15 minutes. Get immediate medical attention.

**INHALATION:**

If nasal, throat or lung irritation develops - remove to fresh air and get medical attention.

**INGESTION:**

Do not feed anything by mouth to an unconscious or convulsive victim. Do not induce vomiting. Immediately contact physician.

Dilute contents of stomach using 3-4 glasses milk or water.

**NOTES TO PHYSICIANS:**

No special instructions

**5 FIRE FIGHTING MEASURES**

**FIRE FIGHTING INSTRUCTIONS:**

Fire fighters should wear positive pressure self-contained breathing apparatus (full face-piece type).

**EXTINGUISHING MEDIA:**

dry chemical/CO2/foam or water--slippery condition; use sand/grit.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Thermal decomposition (destructive fires) yields elemental oxides.

**FLASH POINT:**

> 200F > 93C P-M(CC)

**6 ACCIDENTAL RELEASE MEASURES**

**PROTECTION AND SPILL CONTAINMENT:**

Ventilate area. Use specified protective equipment. Contain and absorb on absorbent material. Place in waste disposal container.

Flush area with water. Wet area may be slippery. Spread sand/grit.

**DISPOSAL INSTRUCTIONS:**

Water contaminated with this product may be sent to a sanitary sewer treatment facility, in accordance with any local agreement, a permitted waste treatment facility or discharged under a permit. Product as is - Incinerate or land dispose in an approved landfill.

**7 HANDLING & STORAGE****HANDLING:**

Alkaline. Do not mix with acidic material.

**STORAGE:**

Keep containers closed when not in use. Protect from freezing.

**8 EXPOSURE CONTROLS / PERSONAL PROTECTION****EXPOSURE LIMITS****CHEMICAL NAME**

NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL

PEL (OSHA): NOT DETERMINED

TLV (ACGIH): NOT DETERMINED

**ENGINEERING CONTROLS:**

adequate ventilation

**PERSONAL PROTECTIVE EQUIPMENT:**

Use protective equipment in accordance with 29CFR 1910 Subpart I

**RESPIRATORY PROTECTION:**

A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

USE AIR PURIFYING RESPIRATORS WITHIN USE LIMITATIONS ASSOCIATED WITH THE EQUIPMENT OR ELSE USE SUPPLIED AIR-RESPIRATORS.

If air-purifying respirator use is appropriate, use a respirator with dust/mist filters.

**SKIN PROTECTION:**

neoprene gloves-- Wash off after each use. Replace as necessary.

**EYE PROTECTION:**

splash proof chemical goggles

**9 PHYSICAL & CHEMICAL PROPERTIES**

Specific Grav.(70F,21C) 1.016      Vapor Pressure (mmHG) ~ 18.0  
Freeze Point (F) 30      Vapor Density (air=1) < 1.00  
Freeze Point (C) -1  
Viscosity(cps 70F,21C) 34      % Solubility (water) 100.0

Odor      Slight  
Appearance      Colorless  
Physical State      Liquid  
Flash Point      P-M(CC) > 200F > 93C  
pH As Is (approx.)      12.7  
Evaporation Rate (Ether=1)      < 1.00

NA = not applicable    ND = not determined

## 10 STABILITY & REACTIVITY

### STABILITY:

Stable under normal storage conditions.

### HAZARDOUS POLYMERIZATION:

Will not occur.

### INCOMPATIBILITIES:

May react with strong oxidizers.

### DECOMPOSITION PRODUCTS:

Thermal decomposition (destructive fires) yields elemental oxides.

### INTERNAL PUMPOUT/CLEANOUT CATEGORIES:

"B"

## 11 TOXICOLOGICAL INFORMATION

Oral LD50 RAT:      >2,000 mg/kg

NOTE - Estimated value

Dermal LD50 RABBIT:      >2,000 mg/kg

NOTE - Estimated value

## 12 ECOLOGICAL INFORMATION

### AQUATIC TOXICOLOGY

Daphnia magna 48 Hour Static Renewal Bioassay

LC50= 170; No Effect Level= 137 mg/L

Fathead Minnow 96 Hour Static Renewal Bioassay

LC50= 29; No Effect Level= 17.9 mg/L

Rainbow Trout 96 Hour Static Renewal Bioassay

LC50= 34; No Effect Level= 6.3 mg/L

#### **BIODEGRADATION**

BOD-28 (mg/g): 75

BOD-5 (mg/g): 7

COD (mg/g): 252

TOC (mg/g): 117

### **13 DISPOSAL CONSIDERATIONS**

If this undiluted product is discarded as a waste, the US RCRA hazardous waste identification number is :

D002=Corrosive(pH).

Please be advised; however, that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

### **14 TRANSPORT INFORMATION**

DOT HAZARD: Not Applicable

UN / NA NUMBER: Not applicable

DOT EMERGENCY RESPONSE GUIDE #: Not applicable

### **15 REGULATORY INFORMATION**

#### **TSCA:**

All components of this product are listed in the TSCA inventory.

#### **CERCLA AND/OR SARA REPORTABLE QUANTITY (RQ):**

No regulated constituent present at OSHA thresholds

#### **SARA SECTION 312 HAZARD CLASS:**

Immediate(acute)

#### **SARA SECTION 302 CHEMICALS:**

No regulated constituent present at OSHA thresholds

#### **SARA SECTION 313 CHEMICALS:**

No regulated constituent present at OSHA thresholds

### **CALIFORNIA REGULATORY INFORMATION**

#### **CALIFORNIA SAFE DRINKING WATER AND TOXIC**

#### **ENFORCEMENT ACT (PROPOSITION 65) CHEMICALS PRESENT:**

No regulated constituent present at OSHA thresholds  
**MICHIGAN REGULATORY INFORMATION**

No regulated constituent present at OSHA thresholds

## **16 OTHER INFORMATION**

### **NFPA/HMIS**

### **CODE TRANSLATION**

Health	1	Slight Hazard
Fire	1	Slight Hazard
Reactivity	0	Minimal Hazard
Special	ALK	pH above 12.0
(1) Protective Equipment	B	Goggles,Gloves

(1) refer to section 8 of MSDS for additional protective equipment recommendations.

### **CHANGE LOG**

#### **EFFECTIVE**

DATE REVISIONS TO SECTION: SUPERCEDES

-----

MSDS status: 10-NOV-1997	** NEW **
14-JAN-1999	10-NOV-1997
28-NOV-2001 3,4	14-JAN-1999
01-JUL-2002 12	28-NOV-2001





Applied Specialties, Inc.  
33555 Pin Oak Parkway  
on Lake, Ohio 44012

AS-8544

041028544-O  
April 12, 2005  
Telephone (440) 933-9442  
Emergency: (216) 973-6118

## MATERIAL SAFETY DATA

### SECTION 1 MATERIAL IDENTIFICATION

PRODUCT NAME OR AS-8544  
SYNONYMS COOLING WATER TREATMENT

### SECTION 2 INGREDIENTS AND HAZARDS

COMPONENT	CAS. NUMBER	TWA/CEILING	REFERENCE
1-Hydroxyethylidene-1, 1-diphosphonic acid	2809-21-4	NOT ESTABLISHED	
Anionic Polyacrylate	Proprietary	NOT ESTABLISHED	
Phosphorus Acid	13598-36-2	NOT ESTABLISHED	

Emergency Overview: Clear To Light Straw Colored, Liquid, Organic Odor. CAUTION! Corrosive. May Cause Skin And Eye Irritation. Prolonged Exposure May Cause Allergic Reactions. Do Not Inhale Or Ingest.

### SECTION 3 REGULATORY INFORMATION

**OSHA STATUS** This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard

**TSCA STATUS** All components are listed

**CERCLA REPORTABLE QUANTITY** RQ 100 lb/45.4 kg (40 CFR 302.5 (b))

**SARA TITLE III:**

**SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE)** Not Listed

**SECTION 311/312 (HAZARDOUS SUBSTANCES)**

Classification Under Section 311/312 of SARA (40 CFR 370): Acute (Yes) Chronic (No) Fire (No) Reactive (No) Pressure (No)

**SECTION 313 (TOXIC CHEMICALS):** Not Listed.

**RCRA STATUS** Corrosive (D002)

**NTP, OSHA, ACGIH & IARC STATUS** Not Listed

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH - 2 FIRE - 0 REACTIVITY - 1

0 MINIMAL  
1 SLIGHT HAZARD  
2 MODERATE HAZARD  
3 SERIOUS HAZARD  
4 SEVERE HAZARD

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

Applied Specialties, Inc.  
33555 Pin Oak Parkway  
Avon Lake, Ohio 44012

AS-8544

041028544-O  
April 12, 2005  
Telephone (440) 933-9442  
Emergency: (216) 973-6118

---

## SECTION 4 HEALTH HAZARD AND PROTECTION DATA

### TARGET ORGANS

Eyes      Skin      Gastrointestinal System      Mucous Membranes Of Throat And Nose

### ROUTES OF ENTRY INTO BODY

Inhalation      Ingestion      Skin Or Eye Contact

### SIGNS AND SYMPTOMS OF EXPOSURE

Eye Irritation      Tearing Or Blurry Vision      Skin Irritation Or Dermatitis      Mucous Membrane Irritation      Coughing · Eye Burns & Possible Permanent Injury      Irritation To Mouth, Nose, And Throat

Oral LD<sub>50</sub>: 2,400 mg/kg      Dermal LD<sub>50</sub>: >7,940 mg/kg      Eye irritation: CORROSIVE  
Skin irritation: CORROSIVE

### PROTECTIVE EQUIPMENT REQUIRED:

Employees should be provided with and required to use impervious clothing such as apron, boots, pants and jacket, gloves, splash goggles or safety glasses as a minimum and other appropriate protective clothing to prevent skin contact. Employees shall be provided with and required to use splash-proof safety goggles where the material may contact the eyes in addition to face shield. Appropriate gloves include those made from neoprene and nitrile. Clothing wet with product should be placed in a closed container until provisions are made for it to be discarded or laundered. If the clothing is to be laundered the person performing the laundering should be informed of the hazardous properties of the material. Any clothing that becomes wet with the material should be removed immediately and not re-worn until the clothing has been properly cleaned. **RESPIRATOR SELECTION** - Use only in well ventilated areas. Where the potential for excessive exposures exists which cannot be controlled by mechanical means, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations. **ESCAPE & FIRE FIGHTING** - Self-contained breathing apparatus with a face-piece operated in a pressure demand or other positive-pressure mode.

### FIRST AID

**NOTE:** Speed in removing product from eyes and skin is of utmost importance.

**SKIN CONTACT:** Skin that becomes contaminated should be washed or showered with soap and water to remove any chemical from skin. Contaminated clothing should be removed and wash the skin with soap and water. Clothing should be washed before it is reused. Safety showers and eye wash stations should be available in work areas. **Get medical attention immediately.**

**EYE CONTACT:** If material gets into the eyes, flush the eyes immediately with large amounts of water for at least 30 minutes, lifting the lower and upper lids occasionally. **Get MEDICAL attention immediately.** Contact lenses should not be worn when working with this substance or any other chemical.

**INHALATION:** If a person breathes in large amounts of product mist, move the person to fresh air. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. **Get medical attention as soon as possible.**

**INGESTION:** If conscious, give large quantities of water or milk of magnesia. **Do not induce Vomiting. Get medical attention immediately.** Never give anything by mouth to an unconscious person.

---

## SECTION 5 PHYSICAL DESCRIPTION

APPEARANCE AND ODOR	Clear to light straw colored liquid; organic odor.
BOILING POINT	108° C (226° F)
MELTING POINT	Not applicable
FLASH POINT	Not applicable
VAPOR PRESSURE	Not established
SPECIFIC GRAVITY	1.296 +/- 0.020 g/ml
PRODUCT pH(neat)	<1.00 standard pH units
SOLUBILITY IN WATER	Complete

---

## SECTION 6 INCOMPATIBILITIES AND STORAGE

Hazardous polymerization: Will not occur  
Incompatibility: Most metals including aluminum/aluminum alloys. Reaction may generate Hydrogen.  
Avoid contact with metal salts of sulfides and sulfites, which could release toxic gases.  
Thermal decomposition may emit highly toxic phosphines.  
Avoid contact with alkaline materials and strong oxidizing agents.  
Do not get in eyes, or on skin or clothing. Avoid breathing vapors.  
Hazardous decomposition: Will not occur  
Keep containers closed when not in use  
Store containers with labels visible.  
Use good industrial hygiene. Wash after handling and before eating, drinking, or smoking.

---

## SECTION 7 REGULATIONS/OSHA

OSHA Standard 29 CFR 1910.1200	HAZARD COMMUNICATION
OSHA Standard 29 CFR 1910.1000	AIR CONTAMINANTS Table Z-1
OSHA Standard 29 CFR 1910.94	VENTILATION
OSHA Standard 29 CFR 1910.134	RESPIRATORY PROTECTION
OSHA Standard 29 CFR 1910.20	ACCESS TO EMPLOYEE EXPOSURE
OSHA Standard 29 CFR 1910.132	PERSONAL PROTECTIVE EQUIPMENT
OSHA Standard 29 CFR 1910.141	SANITATION
OSHA Standard 29 CFR 1910.151	MEDICAL SERVICES AND FIRST AID
OSHA Standard 29 CFR 1910.133	EYE AND FACE PROTECTION

---

## SECTION 8 EMERGENCY HANDLING OF HAZARDOUS MATERIALS

### IF MATERIAL IS ON FIRE OR INVOLVED IN FIRE:

Use water spray, carbon dioxide CO<sub>2</sub> or dry chemical extinguishers or other class B extinguishing agent.

### IF MATERIAL IS NOT ON FIRE OR NOT INVOLVED IN FIRE:

Keep material out of water sources and sewers.

### PERSONAL DANGER SITUATION PROTECTION:

Keep upwind. Avoid breathing dust/vapors/fumes from material. Avoid bodily contact with material. Wear boots, protective gloves and gas-tight goggles. Wear full protective clothing (regular FIRE FIGHTERS' gear is inadequate).

Applied Specialties, Inc.  
33555 Pin Oak Parkway  
Avon Lake, Ohio 44012

AS-8544

041028544-O  
April 12, 2005  
Telephone (440) 933-9442  
Emergency: (216) 973-6118

---

## SECTION 9 SPILL, LEAK AND DISPOSAL PROCEDURES

Persons not wearing protective equipment and clothing should be restricted from spill areas until clean-up has been completed. If AS-8544 is spilled, take the following steps:

1. Ventilate the spill area.
2. Collect spilled material using an approved liquid vacuum.
3. Apply an absorbing compound to any residual material and shovel into a disposal drum.
4. Discard any vacuumed material and the absorbent material in accordance to all FEDERAL, STATE AND LOCAL REGULATIONS.

NOTE: DO NOT wash or pour AS-8544 into any surface waters or streams or directly into sewers.

---

## SECTION 10 SHIPPING AND TRANSPORTATION DATA

PROPER SHIPPING NAME	Corrosive Liquid, Acidic, Organic, N.O.S., ( 1-Hydroxyethylidene-1, 1-Diphosphonic Acid )
HAZARD CLASS	8
IDENTIFICATION NUMBER	UN 3265
PACKAGING GROUP	II
LABEL REQUIRED	Corrosive

TL Molnar/ H. Garcia-Muñoz

---

This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Before using any product, read its label carefully and completely.

---

Applied Specialties, Inc.  
33555 Pin Oak Parkway  
Avon Lake, Ohio 44012

AS-8544

041028544-O  
April 12, 2005  
Telephone (440) 933-9442  
Emergency: (216) 973-6118

---

**PENNSYLVANIA RIGHT-TO-KNOW INFORMATION:**

The following comprises the CHEMICAL IDENTIFICATION list under PENNSYLVANIA RIGHT-TO-KNOW:

	<u>CAS #</u>
1-Hydroxyethylidene-1,1-diphosphonic acid	2809-21-4
Anionic Polyacrylate	Proprietary
Phosphorus Acid	13598-36-2

**NEW JERSEY RIGHT-TO-KNOW TOTAL INGREDIENTS LABEL:**

	<u>CAS #</u>
1-Hydroxyethylidene-1,1-diphosphonic acid	2809-21-4
Anionic Polyacrylate	Proprietary
Phosphorus Acid	13598-36-2

**CALIFORNIA PROPOSITION 65:**

This product does not contain toxic chemicals currently on the California list of known carcinogens and reproductive toxins

Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (proposition 65), this information is provided. This law requires that "clear and reasonable warning" be provided to any individual, knowingly or unintentionally exposed to any substances identified by the state as being cancer or reproductive hazards unless, it can be shown that the exposure poses "no significant risk". Based on available data, the following chemicals listed by Proposition 65 may be present in this product:

NO SUBSTANCES FOUND TO BE PRESENT IN DETECTABLE LEVELS.

